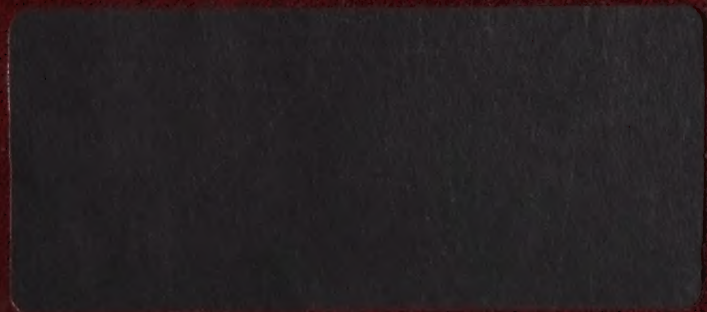


# **Instruction manual**



## **DATA I/O**

Programming systems for tomorrow...today



***CALIBRATION EXTENDER***  
***910-1521***

025-1521 REV B

SEPT 81

Copyright ©Data I/O Corporation, 1981. All rights reserved.



*Data I/O has made every attempt to ensure that the information in this document is accurate and complete. However Data I/O assumes no liability for errors, or for any damages that result from use of this document or the equipment which it accompanies.*

*Data I/O reserves the right to make changes to this document without notice at any time.*



## SECTION I INTRODUCTION

Calibration of the 910-1521 Calibration Extender is recommended every 10 days of operation or once every 100 hours of operation, whichever is less. The 910-1521 Calibration Extender is a precision instrument and should be handled with care.

The following instructions are for the 910-1521 Calibration Extender.

For the 910-1521 Calibration Extender, the 910-1520 Calibration Extender is replaced. The 910-1521 Calibration Extender is a precision instrument and should be handled with care. The 910-1521 Calibration Extender is a precision instrument and should be handled with care. The 910-1521 Calibration Extender is a precision instrument and should be handled with care.

### NOTE

*The 910-1521 Calibration Extender replaces the 910-1520 Calibration Extender. The instructions in this manual supersede instructions for the 910-1520 Calibration Extender.*



Digitized by the Internet Archive  
in 2025

[https://archive.org/details/manualsplus\\_11507](https://archive.org/details/manualsplus_11507)

# SECTION 1

## INTRODUCTION

Calibration of Data I/O programming modules is recommended every 90 days of regular use or more often if programming yields fall below manufacturers' specified minimums.

The Calibration Extender holds the programming

module for access to measurement and adjustment points. The Extender is used without the Universal Calibrator when calibrating a smart programming module. Use the Universal Calibrator, as specified in the appropriate Program Card Set Manual, when calibrating standard programming modules.

### 1.1 INSTALLING THE CALIBRATION EXTENDER

#### 1.1.1 Mounting the Calibration Extender

1. Remove the programming module from the programmer.

2. Mount the extender on the programmer. The extender is designed to fit over the programmer's front panel. The extender is held in place by two screws. Tighten the screws until the extender is flush with the programmer's front panel.

#### 1.1.2 Mounting the Programming Module

3. With the module in the programmer, mount the module on the extender. The module is held in place by two screws. Tighten the screws until the module is flush with the extender's front panel.

### 1.2 REMOVING THE UNIVERSAL CALIBRATOR FROM THE CALIBRATION EXTENDER

#### 1.2.1 Removing the Universal Calibrator

The universal calibrator is used to calibrate the programming module. The universal calibrator is used to calibrate the programming module by measuring the module's output and comparing it to the module's specified output. The universal calibrator is used to calibrate the programming module by measuring the module's output and comparing it to the module's specified output.



## SECTION 2

# INSTALLATION

The programming module may be calibrated without disassembly. Install it and the Universal Calibrator (if required) into the Calibration Extender. See the Universal Calibrator manual for applications of the Universal Calibrator. Figure 1 shows complete installation.

### 2.1 INSTALLING THE CALIBRATION EXTENDER

1. Make sure the programmer power is off.
2. Remove the programming module from the programmer.
3. Insert the tabs on the Calibration Extender into the opening so that the lip of the extender can be hooked around the flange on the programmer front panel. Lower the extender into position and press gently to ensure connector mating.
4. With the handle of the programming module down, connect the 64-pin connectors of the programming module and Calibration Extender. Be sure the connectors mate securely.

### 2.2 INSTALLING THE UNIVERSAL CALIBRATOR ON THE CALIBRATION EXTENDER

#### NOTE

*Do not attach the Universal Calibrator when calibrating a programming module with resident software (such as a UniPak, Gang Module, or MOS Pak). If the Program Card Set Manual lists the Universal Calibrator among required calibration equipment, install it as follows.*

1. Slide the Universal Calibrator securely into the card slot at the front of the Calibration Extender.
2. Connect the 26-conductor cable from J2 of the analog card to J2 of the Universal Calibrator making sure to align the red stripe to the connector dots.
3. Disconnect the 16-conductor cable from J1 on the digital card and route it to J1 on the Universal Calibrator, making sure to align the red stripe with the connector dot.
4. Plug the Calibrator Program Adapter into the Program Adapter slot on the Universal Calibrator.

#### CAUTION

**Be sure the 910-XXXX part of the Calibrator Program Adapter corresponds to the 909-XXXX part number of the programming module.**

5. Connect the DVM ground lead to the GND test point on the Universal Calibrator.

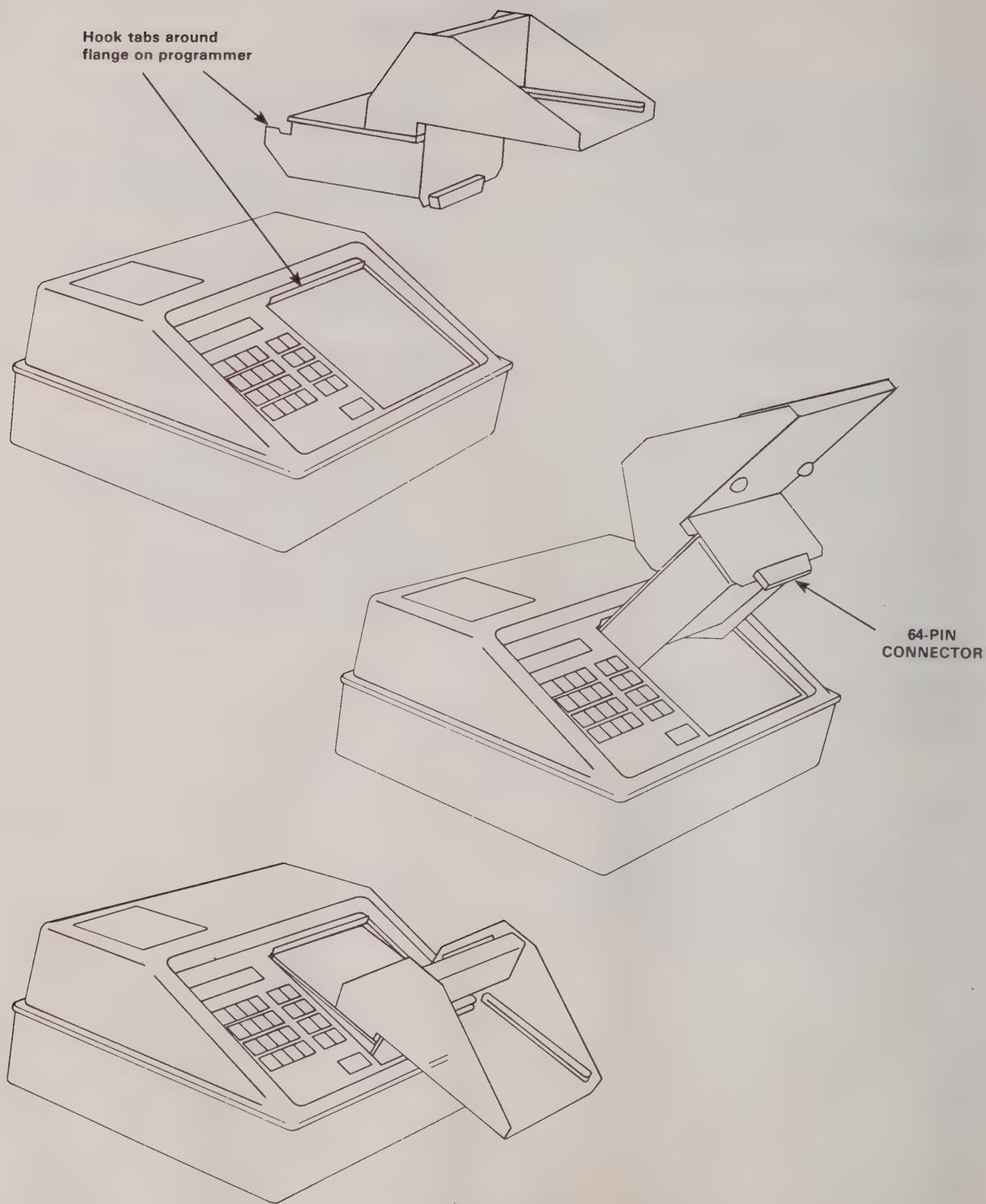


Figure 1. Installing the Calibration Extender

# U.S. and Canada Sales Offices and Representatives

## Direct Sales and Service Offices

### ALASKA, HAWAII, OREGON, WASHINGTON

**Data I/O Corporation**  
10525 Willows Road N.E.  
C-46  
Redmond, WA 98052  
(206) 455-3990  
Telex 320290  
(Sales & Service)

### NORTHERN CALIFORNIA

**Data I/O Corporation**  
473 Sapena Court  
Suite 4  
Santa Clara, CA 95050  
(408) 727-0641  
Telex 352054  
(Sales & Service)

### SOUTHERN CALIFORNIA

**Data I/O Corporation**  
14937 Ventura Blvd.  
Suite 306  
Sherman Oaks, CA 91403  
(213) 601-3301  
Telex 194701  
(Sales)

**Data I/O Corporation**  
2740 South Harbor Blvd.  
Suite D  
Santa Ana, CA 92704  
(714) 979-3621  
(Service)

### EASTERN REGION ADMINISTRATIVE OFFICE

### MAINE, MASSACHUSETTS, NEW HAMPSHIRE, RHODE ISLAND, VERMONT

**Data I/O Corporation**  
Nashua Road  
Route 101A  
Amherst, NH 03031  
(603) 889-8511 (Sales)  
(603) 889-8513 (Service)  
Telex 943431

### NEW JERSEY, NEW YORK, LONG ISLAND, CONNECTICUT EXCLUDING UPSTATE NEW YORK

**Data I/O Corporation**  
2171 Jericho Turnpike  
Suite 230  
Commack, NY 11725  
(516) 499-0140 (Sales)  
(516) 499-0335 (Service)  
Telex 967846

### MID ATLANTIC REGION ADMINISTRATIVE OFFICE

**Data I/O Corporation**  
7720 Wisconsin Avenue  
Suite 227  
Bethesda, MD 20014  
(301) 652-7240

### CENTRAL REGION ADMINISTRATIVE OFFICE

**Data I/O Corporation**  
3361 Successful Way  
Dayton, OH 45414  
(513) 236-6695  
Telex 288315  
(Sales & Service)

### SOUTHERN REGION ADMINISTRATIVE OFFICE

**Data I/O Corporation**  
1702 N. Collins Blvd.  
Suite 110  
Richardson, TX 75080  
(214) 235-0044  
(800) 527-0916 (Not Texas)  
Telex 792474  
(Sales)

## Representatives

(Sales Only)

### ARKANSAS, LOUISIANA, OKLAHOMA, TEXAS

**USDATA**  
14241 Proton Road  
Dallas, TX 75234  
(214) 661-9633  
Telex 910-860-5380

2400 Central Pkwy.  
Suite M  
Houston, TX 77092  
(713) 681-0200

8701 Shoal Creek Blvd.  
Bldg. 1, Suite 104  
Austin, TX 78758  
(512) 454-3579

9820 E. 41st Street  
Tulsa, OK 74145  
(918) 622-8740

### MICHIGAN, EASTERN KENTUCKY, OHIO, WEST VIRGINIA, WEST PENNSYLVANIA

**Electro Sales Associates**  
851 East 222nd Street  
Cleveland, OH 44123  
(216) 261-5440

22126 Ford Road  
Dearborn Heights, MI 48127  
(313) 561-0045

1635 Mardon Drive  
Dayton, OH 45432  
(513) 426-5551

3740 Mount Royal Blvd  
Allison Park, PA 15101  
(412) 487-3801

### UPSTATE NEW YORK

**Martin P. Andrews**  
319 Mott Road  
P.O. Box 443  
Fayetteville, NY 13066  
(315) 637-5291

### KANSAS, MISSOURI, NEBRASKA, SOUTHERN ILLINOIS

**Midtec Associates, Inc.**  
7702 Mize Road  
DeSoto, KS 66018  
(913) 441-6565

110 South Highway 67  
Florissant, MO 63033  
(314) 837-5200

### ALABAMA, FLORIDA, GEORGIA, MISSISSIPPI, NORTH CAROLINA, SOUTH CAROLINA TENNESSEE

**Pen Tech Associates**  
1398 Semoran Blvd.  
Suite 106  
Casselberry, FL 32707  
(305) 645-3444

201 S.E. 15th Terrace  
Suite K  
Deerfield Beach, FL 33441  
(305) 421-4989

Cherokee Center  
Suite 21  
627 Cherokee Street  
Marietta, GA 30060  
(404) 424-1931

Holiday Office Center  
3322 Memorial Pkwy. S.W.  
Huntsville, AL 35801  
(205) 881-9298

1202 Eastchester Drive  
High Point, NC 27260  
(919) 883-9125

### INDIANA, IOWA, WESTERN KENTUCKY, MINNESOTA, NORTHERN ILLINOIS, NORTH DAKOTA, SOUTH DAKOTA, WISCONSIN

**Torkelson Associates**  
4940 Viking Drive  
Minneapolis, MN 55435  
(612) 835-2414

550 West Frontage Rd., RM 3052  
Northfield IL 60093  
(312) 446-9085

2346 S. Lynhurst  
Room B101  
Indianapolis, IN 46241  
(317) 244-7867

2840 N. Brookfield Road  
Brookfield, WI 53005  
(414) 784-7736

### ARIZONA, COLORADO, IDAHO, MONTANA, NEW MEXICO, NEVADA, UTAH, WYOMING

**Zeus Incorporated**  
546 E. Portland  
Phoenix, AZ 85004  
1 800 528-4512  
(602) 253-6101  
TVX 910 951 1362

310 Val Verde, S.E.  
Albuquerque, NM 87108  
1 800 525-4512  
(505) 842-6633  
TWX 910 989 1664

3333 Quebec Street  
Suite 2950  
Denver, CO 80207  
1 800 528-4512  
(303) 321-4246

1849 W. North Temple  
Suite 377  
Salt Lake City, UT 84116  
1 800 528-4512  
(801) 534-0500

### SOUTHERN NEW JERSEY, DELAWARE, MARYLAND, EASTERN PENNSYLVANIA, VIRGINIA, WASHINGTON D.C.

**Scientific Representatives, Inc.**  
496 North Kings Highway  
Cherry Hill, NJ 08034  
(609) 482-0059

9512A Lee Highway  
Fairfax, VA 22031  
(703) 385-0600

### CANADA

**Alan Crawford Associates, Ltd.**  
6503 Northam Drive  
Mississauga, Ontario L4V 1J2  
(416) 678-1500  
Telex 06 968769

881 Lady Ellen Place  
Ottawa, Ontario K1Z 5L3  
(613) 722-7682  
Telex 053 3600

7018 Cote De Liesse  
St. Laurent, P.Q. H4T 1E7  
(514) 731-8564  
Telex 05-824944

1935 30th Avenue N.E.  
Calgary, Alberta T2E 6Z5  
(403) 230-1341  
Telex 03-821186

3795 William Street  
Burnaby, B.C. V5C 3H3  
(604) 294-1326  
Telex 04 54247

192 Joseph Zatzman Drive  
Dartmouth, Nova Scotia B3B 1N4  
(902) 463-9360  
Telex 019 31604

15043A 118th Avenue  
Edmonton, Alberta T5V 1H9  
(403) 451-4893



## Reader Comments

The manual's completeness, accuracy, organization, usability, and reliability: \_\_\_\_\_

Did you find errors in this manual? \_\_\_\_\_

How can this manual be improved? \_\_\_\_\_

Additional comments: \_\_\_\_\_

Name \_\_\_\_\_ Title \_\_\_\_\_

Department \_\_\_\_\_ M/S \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Phone \_\_\_\_\_

Manual or Part No. \_\_\_\_\_

O299/DEC 81

## Warranty/Registration

*Please return this card to Data I/O within five days*

Did the packaging of this equipment exhibit any outward signs of physical damage? ..... ☐ YES ☐ NO

Did this equipment arrive intact, without loose parts or cable damage? ..... ☐ YES ☐ NO

Did the equipment operate on power-up? ..... ☐ YES ☐ NO

Did you attain adequate system performance? ..... ☐ YES ☐ NO

Were any electrical adjustments required? ..... ☐ YES ☐ NO

If you required assistance, was a local Data I/O representative contacted? ..... ☐ YES ☐ NO

Comments: \_\_\_\_\_

Name \_\_\_\_\_ Title \_\_\_\_\_

Department \_\_\_\_\_ M/S \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Phone ( ) \_\_\_\_\_

Model or Description \_\_\_\_\_ Serial or Part No. \_\_\_\_\_

Date Received \_\_\_\_\_

# Warranty 90 Days

Data I/O warrants that all equipment sold pursuant to any resultant agreement shall be free from defects in material or workmanship at the time of delivery. Such warranty shall extend for 90 days. Buyer must provide notice to Data I/O within this prescribed warranty period of any defect; if the defect is not the result of improper usage, service, maintenance or installation and equipment has not been otherwise damaged or modified after delivery, Data I/O shall either replace or repair the defective part or parts of equipment or replace the equipment or refund the purchase price at Data I/O's option after return of such equipment by buyer to Data I/O. Shipment to and from Data I/O's facility shall be borne on account of buyer.

(a) Consequential Damages — Data I/O shall not be liable for any incidental or consequential damages incurred as a result of any defect in any equipment sold hereunder and Data I/O's liability is specifically limited to its obligation described herein to repair or replace a defective part or parts covered by this warranty.

(b) Exclusive Warranty — The warranty set forth herein is the only warranty, oral or written made by Data I/O and is in lieu of and replaces all other warranties, expressed or implied, including the WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

## BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 41 REDMOND, WA 98052

Postage will be paid by:

### DATA I/O

Reader Comments  
Applications Manager  
10525 Willows Road N.E.  
C-46  
Redmond, WA 98052



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

## BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 41 REDMOND, WA 98052

Postage will be paid by:

### DATA I/O

Warranty/Registration  
Service Manager  
10525 Willows Road N.E.  
C-46  
Redmond, WA 98052



# DATA I/O

Programming systems for tomorrow...today